

3.3 Comparing CD Prices

The ads below use rates to describe sale prices. To compare prices in sales such as these, it's often useful to find a unit rate. A **unit rate** is a rate in which one of the numbers being compared is 1 unit. The comparisons "45 miles per gallon," "\$3.50 per hour," "8.5 kilometers per hour," and "two sandwiches for each person" are all unit rates. "Per gallon" means "for one gallon" and "per hour" means "for one hour."



Problem 3.3 Unit Rates and Equations

Use unit rates to compare the ad prices and to find the costs of various numbers of CDs at each store.

- Which store has the lower price per CD?
- For each store, write an equation (a rule) that you can use to calculate the cost c for any purchase of n compact discs.
- Use the equations you just wrote for Question B. Write new equations to include 5% sales tax on any purchase.

- D.** Suppose a Web site sells CDs for \$8.99 per disc. There is no tax, but there is a shipping charge of \$5 for any order. Write an equation to give the cost c of any order for n discs from the Web site.
- E.** Use your equations from Question C or make a rate table to answer each question.
1. How many discs do you have to order from the Web site to get a better deal than buying from Music City?
 2. How many discs do you have to order from the Web site to get a better deal than buying from CD World?

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3.4

What Does Dividing Tell You?

In this problem, the questions will help you decide which way to divide when you are finding a unit rate. The questions will also help you with the meaning of the quotient after you divide.

Getting Ready for Problem 3.4

Dario has two options for buying boxes of pasta. At CornerMarket he can buy seven boxes of pasta for \$6. At SuperFoodz he can buy six boxes of pasta for \$5.

At CornerMarket, he divided 7 by 6 and got 1.16666667. He then divided 6 by 7 and got 0.85714286. He was confused. What do these numbers tell about the price of boxes of pasta at CornerMarket?

Decide which makes more sense to you. Use that division strategy to compare the two store prices. Which store offers the better deal?